IN THE SPECIFICATION

Amend the specification as follows:

Amend the paragraph at page 1, lines 4-8, as follows:

This application is related to U.S. Serial No. 10/776,808, which is entitled "High Efficiency Single And Multiple Wavelength Stabilized Laser System" (Optovia 6), has a common assignee and some common inventors with the present invention, and is being filed concurrently with the present invention.

Amend the paragraph at page 5, line 12, to page 6, line 2, as follows:

Partial reflectors have also been used in prior art stabilization systems as described in the copending application U.S. Serial No. 10/776,808. In a prior art laser stabilization method, a laser source is coupled at its output to a reflection filter that selectively reflects back a part of the output of the laser sources toward the laser to stabilize the laser source's spectrum and power. The reflection filter sets both the wavelength and the amount of reflection used to feed back a signal to the laser source as found in, for example, Fiber Bragg Gratings (FBG) stabilized lasers. In such FBG system, the pump laser is connected to the FBG via a Polarization Maintaining (PM) optical fiber. The FBG provides the required reflection for stabilization of the FP laser chip. This method has been extensively used to stabilize a single laser source. Some

multiple wavelength applications have also used this method to stabilize multiple laser sources using individual FBG for each laser source followed by a Wavelength Division Multiplexer (WDM) to combine stabilized laser source signals.

Amend the paragraph at page 11, line 18, to page 12, line 3, as follows:

For the first power splitter 21, a first input/output port 21a thereof is coupled to receive signal or transmit signals to a signal generating device (not shown) via a path A; a second input/output port 21b thereof is coupled to a first input/output port 22a of the second power splitter 22 via a path B; a third input/output port 21c thereof is coupled to a third input/output port 22c of the second power splitter 22 via a path ~~E~~ D; and a fourth input/output port 21d thereof is coupled to a fourth input/output port 22d of the second power splitter 22 via a path ~~F~~ E. A second input/output port 22b of the second power splitter serves as a reflector 20 output and delivers output signals from the twisted loop reflector 20 via a path ~~D~~ C to any predetermined downstream device (not shown).

Amend the paragraph at page 12, lines 12-26, as follows:

In the second power splitter 22, the received signal at the first input/output port 22a via path B is split into first and second portions. The first portion is provided as an output signal from the twisted loop reflector 20 via path C to any predetermined downstream device. A second portion of the signal received at input/output port 22a is transmitted via the third

input/output port 22c and path D to the third input/output port 21c of the first power splitter ~~22~~ 21. The second portion from the first power splitter 21 received at the third input/output port 22c via path D is split into first and second portions. The first portion thereof is directed to the first input/output port 22a and via path B to the second input/output port 21b of the first power splitter 21. The second portion thereof is directed to the fourth input/output port 22d and via path E to the fourth input/output port 21d of the first power splitter 21.

Amend the paragraph at page 14, line 14, to page 15, line 6, as follows:

For the first power splitter 25, a first input/output port 25a thereof is coupled to receive or transmit signals via a path A; a second input/output port 25b thereof is coupled to a first input/output port 27a of the optional main transmission filter 27 via a path B; a third input/output port 25c thereof is coupled to a first input/output port 28a of the optional first feedback transmission filter 28 via a path F; and a fourth input/output port 25d thereof is ~~couple~~ coupled to a first input/output port 29a of the optional second feedback transmission filter 29 via a path G. A second input/output port 27b of the optional main transmission filter 27 is coupled to a first input/output port 26a of the second power splitter 26 via a path C. The port 26b of the second power splitter 26 serves as an output of the reflector 24 and delivers output signals from reflector 24 via a path D to any predetermined downstream device (not shown); a

third input/output port 26c thereof is coupled to a second input/output port 28b of the first optional feedback transmission filter 28 via a path E; and a fourth input/output port 26d thereof is coupled to a second input/output port 29b of the optional second feedback transmission filter 29 via a path H.

Amend the paragraph at page 17, lines 6-11 as follows:

As was described in the copending U.S. Serial No 10/776,808. the proper choice of the $f_1(w)$, $f_2(w)$, and $f_3(w)$, coupling ratios, and cavity length provides a feedback signal to a laser that essentially compensates for a shift and excess loss normally incurred by the laser as a result of receiving a feedback signal as was described for a prior art laser stabilization system.

Amend the paragraph at page 19, lines 4-15 as follows:

For the second broadband power splitter 53, a first input/output port 53a thereof is coupled to a second input/output port 52e of the forward demultiplexer/multiplexer arrangement 52 via a path C; a second port 53b serves as an output of the reflector 50~~ output~~ and delivers output signals from reflector 50 to a predetermined downstream device (not shown) via a path D; a third input/output port 53c thereof is coupled to a second input/output port 54e of the first feedback demultiplexer/multiplexer arrangement 54 via a path E; and a fourth input/output port 53d thereof is coupled to a second input/output port 55e of the second feedback demultiplexer/multiplexer arrangement 55 via a path H.

Amend the paragraph at page 19, lines 16-24, as follows:

The description of the operation for the twisted loop 24 of FIG. 5 is applicable to the operation of the twisted loop 50 of FIG. 7 except that the main transmission filter 27, $f_1(w)$, first 28 and second 29 feedback transmission filters, $f_2(w)$ and $f_3(w)$, of twisted loop 24 of FIG. 5 are replaced with forward multiplexer/demultiplexer arrangement 52, $f_1^j(w)$, first feedback multiplexer/demultiplexer arrangement 54, $f_2^j(w)$, and second feedback multiplexer/demultiplexer arrangement 55, $f_3^j(w)$, in FIG. ~~8~~ <u>7</u>, and will not be repeated here.

Amend the paragraph at page 21, line 13, to page 23, line 16, as follows:

In operation, each of a plurality of n wavelength signals from a plurality of n remote sources (not shown) is received via a separate one of the paths A at a first input/output port 81p of a corresponding one of the plurality of n 2x2 power splitters 81a-81n. In each of the power splitters 81a-81n, a signal received at the first input/output port 81p is split into first and second portions that are routed via input/output ports 81q and 81r, respectively, to a respective corresponding one of the plurality of n first input/output ports 83a of the Forward Multiplexer, $f_1^j(w)$, 83, and a corresponding one of the plurality of n first input/output ports 84a of the first Feedback Multiplexer, ~~$f_1^j(w)$~~ $\underline{f_2^j(w)}$, 84. In the Forward Multiplexer 83, the signals received at the plurality of n first input/output

ports 83a are filtered with the spectral response $f_1^j(w)$ and multiplexed to generate a multiplexed output signal for transmission via the path C to the first input/output port 82a of the broadband power splitter 82. In the broadband power splitter 82, the multiplexed signal received via path C at the first input/output port 82a is split into first and second portions where the first portion is transmitted via the second port 82b and path D, while the second portion is transmitted via the third input/output port 82c and path E to the second input/output port 84e 84b of the first feedback multiplexer 84. In the first Feedback Multiplexer 84, signals received at the plurality of n first input/output ports 84a are both filtered with the spectral response $f_2^j(w)$ and multiplexed to generate a multiplexed output signal for transmission via the path E to the third input/output port 82c of the broadband power splitter 82. Concurrently, the multiplexed signal received by the first Feedback Multiplexer 84 at the second input/output port 84b via path E is both filtered with the spectral response $f_2^j(w)$ and demultiplexed to generate a plurality of n output signals for transmission via separate ones of the paths F to the third input/output port ~~82c~~ 81r of a corresponding one of the plurality of n 2x2 power splitter 81a-81n. The multiplexed signal received by the broadband power splitter 82 via path E is split into first and second portions. The first portion is directed to the first input/output port 82a thereof and via path C to the Forward Multiplexer 83 where the first portion is demultiplexed and filtered with the spectral response $f_1^j(w)$ and each of the plurality of n demultiplexed

signals is transmitted to the second input/output port 81q of a corresponding one of the plurality of n 2x2 power splitters 81a-81n. The second portion from the Broadband power splitter 82 is transmitted via the fourth input/output port 82d and the path H to the second input/output port 85b of the second feedback multiplexer 85. In each of the plurality of n 2x2 power splitters 81a-81n, signals received at its second and third input/output ports 81q and 81r are combined and then split into first and second portions where the first portion is transmitted as a feedback signal via the path A to the originating remote source, and the second portion is transmitted to a corresponding one of the plurality of n input/output ports 85a of the second feedback multiplexer 85. In the second feedback multiplexer 85, signals received at the plurality of n first input/output ports 85a are both filtered using the spectral response $f_3^j(w)$ and multiplexed into a multiplexed output signal from the input/output port 85b thereof to the fourth input/output port 82d of the broadband power splitter 82, and vice versa.

Amend the paragraph at page 28, line 25, to page 29, line 25, as follows:

It is to be appreciated and understood that the specific embodiments of the present invention that have been described are merely illustrative of the general principles of the present invention. Various modifications may be made by those skilled in the are that are consistent with the principles of the present invention. For example, a basic configuration of the twisted

loop and ring reflector arrangements of the present invention comprise first and second power splitters that are coupled in a somewhat pretzel-like arrangement, and various components such as delay lines, and transmission filters or multiplexers that filter a signal passing therethrough with a predetermined spectral response can be inserted in the various paths of the somewhat pretzel-like arrangement depending on the type of reflected signal that is desired. For example, as described in the copending application U.S. Serial No. 10/776,808, the spectral responses of the feedback transmission filters or feedback multiplexers are designed to provide a feedback signal to one or more laser sources that is shifted in a direction opposite to a shift normally produced in the laser from a feedback signal as is found in prior art laser stabilization systems. Still further, when in the specification the terms couple, or coupling, or couples are used, it is meant to describe that two components (devices) are connected together, either directly, or through some third element. Additionally, delay lines can be inserted into any of the feedback signal paths where components are required in the feedback signal for controlling the signal source as, for example, to place a laser in a stable "coherence collapse" mode as is well known in the prior art.